

REMARKS

Introduction:

Claims 40, 42, 47, 48, 50-53, 56, and 61-64 have been cancelled; claims 41, 43-46, 49, 54, 55, and 57-60 have been amended; and claims 65-70 have been newly added. Claims 41, 43-46, 49, 54, 55, and 57-60 41, 43-46, 49, 54, 55, 57-60, and 65-70 are now pending in the application. Applicants respectfully request reexamination and reconsideration of the application in light of these amendments and the following remarks.

Before addressing the issues raised in the Office Action, it should be noted that claims 40, 42, 47, 48, 50-53, 56, and 61-64 were cancelled not for patentability reasons but for other reasons, such as to delete limitations deemed unnecessary to the defining the invention and to make the claims compatible with newly added independent claim 65.

Priority:

Applicants have amended the specification with regard to the claim of priority to the referenced provisional application. See MPEP § 201.08. Applicants believe that this clarifies the relationship of this application to the provisional application.

Objections To Drawings:

Applicants have deleted portions of claims 41 and 61, mooted the objection to the drawings as not illustrating the subject matter of these claims. As explained below, the amendments to claims 41 and 61 were made for convenience rather than patentability. That is, the specification fully supports the deleted portions of claim 41 and 61. The deleted portions of claims 41 and 61, however, are considered unnecessary limitations, and the amended versions of claims 41 and 61 are deemed to be broader in scope than the original versions.

It should be noted that Figure 8 can be found on the same sheet as of the original drawings as Figure 3D. Although not in numerical order, these two drawings were included on the same page in an attempt to reduce the total number of sheets of drawings in the application.

Objections To Claims:

Applicants have cancelled claims 62-64. It should be noted that these claims were not cancelled for patentability reasons. Rather, the claims were cancelled because, as noted by the Examiner, they were in improper form.

Rejection Under 35 USC § 112, First Paragraph:

As noted above, limitations in original claims 41 and 61 have been deleted, broadening the scope of those claims. The amendments to claims 41 and 61 were not made, however, for patentability reasons. The original limitations, as well as the broader amended versions of claims 41 and 61, are fully supported by the specification. For example, claim 41 reads on the exemplary embodiment illustrated in Figure 7. Figure 3D as well as the description of exemplary embodiments on page 41 (lines 5-23) and page 65 (lines 2-16) fully supports claim 61.

Rejections Based On Art:

Claims 40-64 have been rejected in light of one or more of US Patent Nos. 5,897,326, 5,477,611, and 5,455,390. To the extent that such rejections might be applied to the claims as amended, Applicants traverse these rejections.

New independent claim 65 recites an electronic component that includes a contact structure electrically connected to a terminal on a substrate. Masking material on the substrate includes an opening and a base region that define the shape of the contact structure, which is formed by depositing a conductive material within the patterned masking material. None of the above-identified US patents used to reject claims 40-64 teach or suggest such an electronic component. New independent claim 70 includes similar requirements. Therefore, new independent claims 65 and 70 and the claims that depend therefrom patentably distinguish over the prior art of record.

Conclusion:

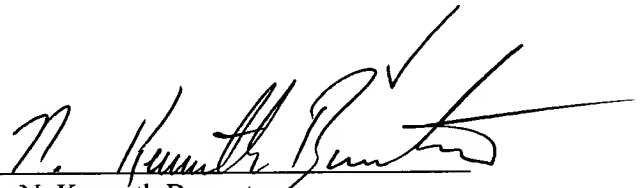
In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (925) 456-3915.

Although Applicants believe that all necessary extensions of time have been requested and all necessary fees have been paid, any extension of time not already requested and necessary for acceptance of this paper is hereby requested, and Applicant authorizes the Commissioner to charge the fee for any such extension of time as well as any other fee required in connection with the filing of this paper to Deposit Account No. 50-0285 (order no. P48D1-US).

Respectfully submitted,

Date: September 24, 2001

By:


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VERSION WITH MARKINGS TO SHOW CHANGES ✓

In the Specification:

Paragraph replacing the original paragraph on page 1, lines 14-18:

This patent application [is a continuation-in-part of] claims the benefits of the following provisional application under 35 USC 119(e): commonly-owned, copending U.S. Patent Application entitled "MICROELECTRONIC CONTACT STRUCTURES", Serial No. 60/073,679 filed 04 Feb 98 by Pedersen and Khandros, incorporated by reference herein.

In the Claims:

Claims 41, 43-46, 49, 54, 55, and 57-60:

41. (Amended) The [resilient contact structure] electronic component of claim [40 further comprising] 65, wherein the main body region comprises a curved portion [comprising an approximately circular region, with an inner curve which is approximately circular with an inner radius which is smaller than an outer curve which is approximately circular with an outer radius, with the center point of the inner radius suitably offset from the center point of the outer radius so that the approximately circular region outlines a resilient member].

43. (Amended) The [resilient contact structure] electronic component of claim [40] 65 wherein the main body region is approximately parallel to [and displaced from the] a surface of the electronic component.

44. (Amended) The [resilient contact structure] electronic component of claim [43] 65 wherein at least a portion of the main body region is displaced from the [surface of the electronic component] substrate by a distance of between about 5 and 200 mils (thousandths of an inch).

45. (Amended) The [resilient contact structure] electronic component of claim [43] 65 wherein at least a portion of the main body region is displaced from the [surface of the electronic component] substrate by a distance of between about 2 and 8 mils.
46. (Amended) The [resilient contact structure] electronic component of claim [40] 65, wherein said contact structure further [comprising] comprises a sloped region disposed between [within] the [connected] base region and the main body region .
49. (Amended) The [resilient contact structure] electronic component of claim 46 where the sloped region has an average angle of between about 60 and about 75 degrees.
54. (Amended) The [resilient contact structure] electronic component of claim [40] 65 wherein the conductive material comprises nickel.
55. (Amended) The [resilient contact structure] electronic component of claim [40] 65 wherein the conductive material comprises a material selected from the group consisting of nickel, copper, cobalt, iron, gold, silver, elements of the platinum group, noble metals, semi-noble metals, elements of the palladium group, tungsten, and molybdenum
57. (Amended) The [resilient contact structure] electronic component of claim [40] 65 wherein the [electronic component is] substrate comprises a semiconductor device.
58. (Amended) The [resilient contact structure] electronic component of claim [40] 65 wherein the [electronic component is] substrate comprises a semiconductor device that has been singulated from a wafer.

59. (Amended) The [resilient contact structure] electronic component of claim [40] 65 wherein the [electronic component is] substrate comprises a device selected from the group consisting of a semiconductor device, a memory device, a portion of a semiconductor wafer, a space transformer, a ceramic device, a probe card, a chip carrier and a socket.

60. (Amended) The [resilient contact structure] electronic component of claim [40] 65 further comprising a separate tip structure joined permanently to the [resilient] contact structure[to make a second, modified resilient contact structure].